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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,493	06/03/2005	Hiroshi Horiuchi	Q88366	4639

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EXAMINER	
BADR, HAMID R	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
06/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/537,493	HORIUCHI ET AL.	
	Examiner	Art Unit	
	HAMID R. BADR	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/7/2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/7/2005, 1/17/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification Objections

The abstract of the disclosure is objected to for being too long. The abstract should give a brief account of the invention in a paragraph of 150 words or less. Correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 7-9 are indefinite. The terms "more excellent, rich taste etc" in claim 7-9 are relative terms which render the claim indefinite. The terms "more excellent, rich taste, mild taste, smooth texture on tongue" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. "Hardness at distribution" is another term not defined and making the claims indefinite. The phrases "long term" and "low temperature" are also indefinite. It is not clear what is meant by "long" or "low" or what times or temperatures these terms respectively encompass.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castberg et al. (US 5,453,256; hereinafter R1) in view of Kamiya (EP 1 082 907; hereinafter R2).

6. R1 discloses a method of converting pasteurized milk into fermented milk in which the pasteurized milk is carbonated with carbon dioxide and inoculated with starter culture. (Abstract).

7. R1 discloses that while the conventional yoghurt process employs 43C as the incubation temperature; an incubation temperature of 30C may be employed (Col. 3, lines 14-17).

8. R1 discloses the advantage of the invention as shortening the fermentation time necessary and can thus lead to economics of the fermented milk and is particularly applicable to yoghurt production (Col. 4, lines 29-34).

9. R1 teaches using 1200 ppm of carbon dioxide which stimulates the starter culture and as a result the incubation time is reduced by 20% (Col. 5, lines 5-10). Given the effect of lowering the oxygen content of the medium on the starter culture in reducing the incubation time, the finding, by the applicant, that the "increase of the lactic

acid activity could be promoted without using any additives such as fermentation promoting substances by using inert gas to reduce the dissolved oxygen concentration" (Page 5 of the instant application, lines 10-21) is known in the art.

10. R1 gives an incubation temperature of 37C while using yoghurt starter cultures (Col. 8, Example IV)

11. R1 is silent regarding the dissolved oxygen concentration and how it can be monitored by using an inert gas.

12. R2 teaches using nitrogen to reduce the dissolved oxygen in milk. R2 teaches that in milk; the dissolved oxygen is about 10 ppm and in order to reduce it to about 2 ppm; one needs to add 40-50%, by volume, of nitrogen gas to the amount of milk (page 4, p 0023). R2 discloses that reducing the dissolved oxygen in milk will reduce smell and improve taste and smoothness (Abstract and Fig. 4).

13. Regarding claims 7-9, given that R1 in combination with R2 disclose method as presently claimed, it is clear that such method would intrinsically result in fermented milk with excellent smoothness and taste as presently claimed as well as hardness as presently claimed.

14. Regarding claims 10-12; the gel strength in the final product may be measured by different means. For instance a penetrometer may be employed to test the gel strength. However, depending on the desired gel characteristics of the final fermented milk product e.g. yogurt, one of ordinary skill in the art may optimize the process for such parameters as milk solid contents, starter culture concentration, incubation temperature and duration of fermentation as well as the concentration of such

compounds as gelatin or starch added at the beginning to the milk base. The parameters such as penetration angle and hardness are absolutely unusual in the art and obviously could be replaced by other more meaningful parameters for the determination of gel strength. Given that R1 in combination with R2 disclose method as presently claimed, it is clear that such method would intrinsically result in fermented milk with penetration angle and hardness as presently claimed.

15. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the teachings of R1 and adopt the teachings of R2 in using an inert gas to reduce the dissolved oxygen in the milk medium to accelerate the growth of the starter culture and hence reduce the incubation time as presently claimed. One would do so to benefit from processes which may be carried out on a continuous basis and having a shorter fermentation time, the overall economics of the process will be improved. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in making a fermented product using an inert gas.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5 962046 teaches a general use of inert gas in continuous fermentations without mentioning the quantitative data in reduction of dissolved oxygen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-T 5:00 to 3:30 (Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr
Examiner
Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794